UX/UI Case Study - Taemin Kim

Mobile Video Game Production

Kin : Little Rabbit

Project Timeline

2 Weeks

2 Weeks

8 Weeks

3 Weeks

Discover

Define

Ideate / Prototype

Test / Finalize
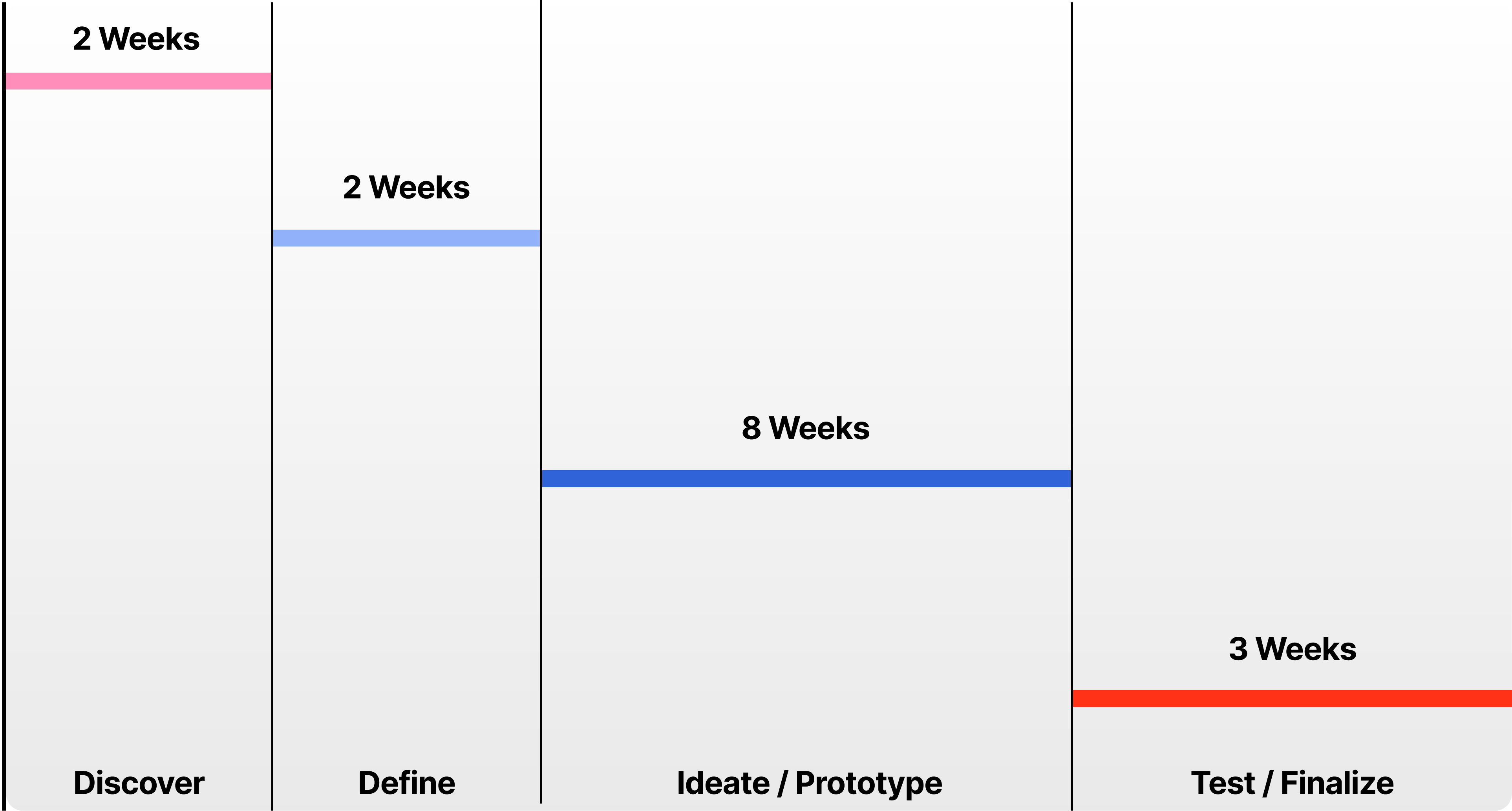
Agenda

Area of Opportunity

Discover

Define

Ideate

Prototype / Test

Reflection

Appendix

Mobile
Video Game
Development
Project Overview

Area of Opportunity:

How might we design a minimal yet intuitive game UI that enhances player interaction and immersion by improving gameplay flow, reducing cognitive pressure, and making UI elements more accessible?

Area of Opportunity

Problems

1

Slow Weapon Swapping

Competitive players struggle with quick access to sub-weapons.

2

Overloaded UI

Too many visual elements clutter the screen, distracting players.

3

Complex Input Process

Too many steps to perform actions slow down reactions.

Area of Opportunity

Solutions

1 **Fast Weapon Swapping**

Quick-access controls for seamless sub-weapon use.

2 **Simplified UI**

Clean, minimal design for better focus and navigation.

3 **Instant Input Process**

Fewer steps for faster reactions during gameplay.

Area of Opportunity

Benefit Sought

For Players

- Better engagement
- quicker reactions, and a more
- immersive experience.

Area of Opportunity

Research Methods

1 **Interview**

Conduct interviews with gamers to understand their pain points.

2 **Analyze articles**

Analyze articles on game UI trends.

Research Questions - Interview

1. What do players find most challenging in current game UI designs?

2. How do minimal UI elements impact the overall gaming experience?

3. What are the essential features for user interaction in a 2D battle adventure game?

Research Questions - Interview

Sunkwan Lee (Competitive Gamer, 21 years old)

Background

- Hardcore gamer who plays competitively.

- Prioritizes efficiency and speed in UI interactions.

Preferred Games

- Valorant

- League Of Legends

- PUBG PC, Mobile

Research Questions - Interview

Sunkwan Lee (Competitive Gamer, 21 years old)

> 1. What do players find most challenging in current game UI designs?

"Too many unnecessary animations or delays. If I need to swap weapons or check stats, I want instant access."

"Menus that require too many clicks to navigate. Everything should be one or two clicks away."

"Some games don't allow UI customization, which is annoying. I want to position HUD elements where they work best for me."

Research Questions - Interview

Sunkwan Lee (Competitive Gamer, 21 years old)

2. How do minimal UI elements impact the overall gaming experience?

"Minimal UI is great if done right. Too much clutter distracts from the game, but hiding critical info is just as bad."

"Quick access to weapons and skills is a must. A hotkey system or a dedicated button for quick swaps is ideal."

Research Questions - Interview

Sunkwan Lee (Competitive Gamer, 21 years old)

3. **What are the essential features for user interaction in a 2D battle adventure game?**

"Customizable controls and HUD placement are important."

"Fast and responsive weapon/item swapping, no unnecessary animations slowing it down."

"Clear indicators for cooldowns, enemy positions, and quick commands for teamwork."

Research Questions - Interview
Wanqing Hu (Casual Gamer, 20 years old)

Background

- Plays games for relaxation and entertainment.

- Enjoys visually appealing and intuitive UI designs.

Preferred Games

- Genshin Impact

- Stardew Valley

- Honkai: Star Rail

Research Questions - Interview
Wanqing Hu (Casual Gamer, 20 years old)

1. What do players find most challenging in current game UI designs?

"Sometimes, game menus are too complicated. I just want to jump into the game without feeling overwhelmed by too many buttons or settings."

"I struggle with games that don't give clear guidance on what to do next. If I have to search online for basic mechanics, that's frustrating."

Research Questions - Interview
Wanqing Hu (Casual Gamer, 20 years old)

2. **How do minimal UI elements impact the overall gaming experience?**

"I like a clean screen with fewer distractions, but sometimes, important information is hidden, and I don't know where to find it."

"A good balance is key. I need tooltips or some visual indicators to guide me without making the screen cluttered."

Research Questions - Interview
Wanqing Hu (Casual Gamer, 20 years old)

3.What are the essential features for user interaction in a 2D battle adventure game?

"A clear tutorial at the start is essential. I don't want to feel lost."

"Inventory and abilities should be easy to access. Maybe a simple radial menu or quick shortcuts would help."

"A small, always-visible health bar and an easy way to track objectives would be useful."

Secondary Research Questions : Articles

1. What do players find most challenging in current game UI designs?

2. How do minimal UI elements impact the overall gaming experience?

3. What are the essential features for user interaction in a 2D battle adventure game?

Secondary Research : Articles

1. What do players find most challenging in current game UI designs?

- Common Mistakes in Video Game User Interfaces: This article discusses frequent issues such as slow navigation, consistency flaws, and inefficient use of screen space.

Sapphire Nation

- Why UI Design is a Challenge for Video Games: This piece highlights the complexities developers face in creating effective game UIs, emphasizing the importance of intuitive design.

Medium

Game: Battleborn

A much better way to spot potential issues.

Secondary Research : Articles Summary

1. What do players find most challenging in current game UI designs?

Overloaded UI

Too much information on the screen makes it hard to focus.

Inconsistent Design

Unclear fonts, icons, and layouts confuse players.

Poor Navigation

Complicated menus slow down access to key features.

Immersion Breaking UI

UI that doesn't match the game world feels distracting.

Lack of Accessibility

Missing customization frustrates players.

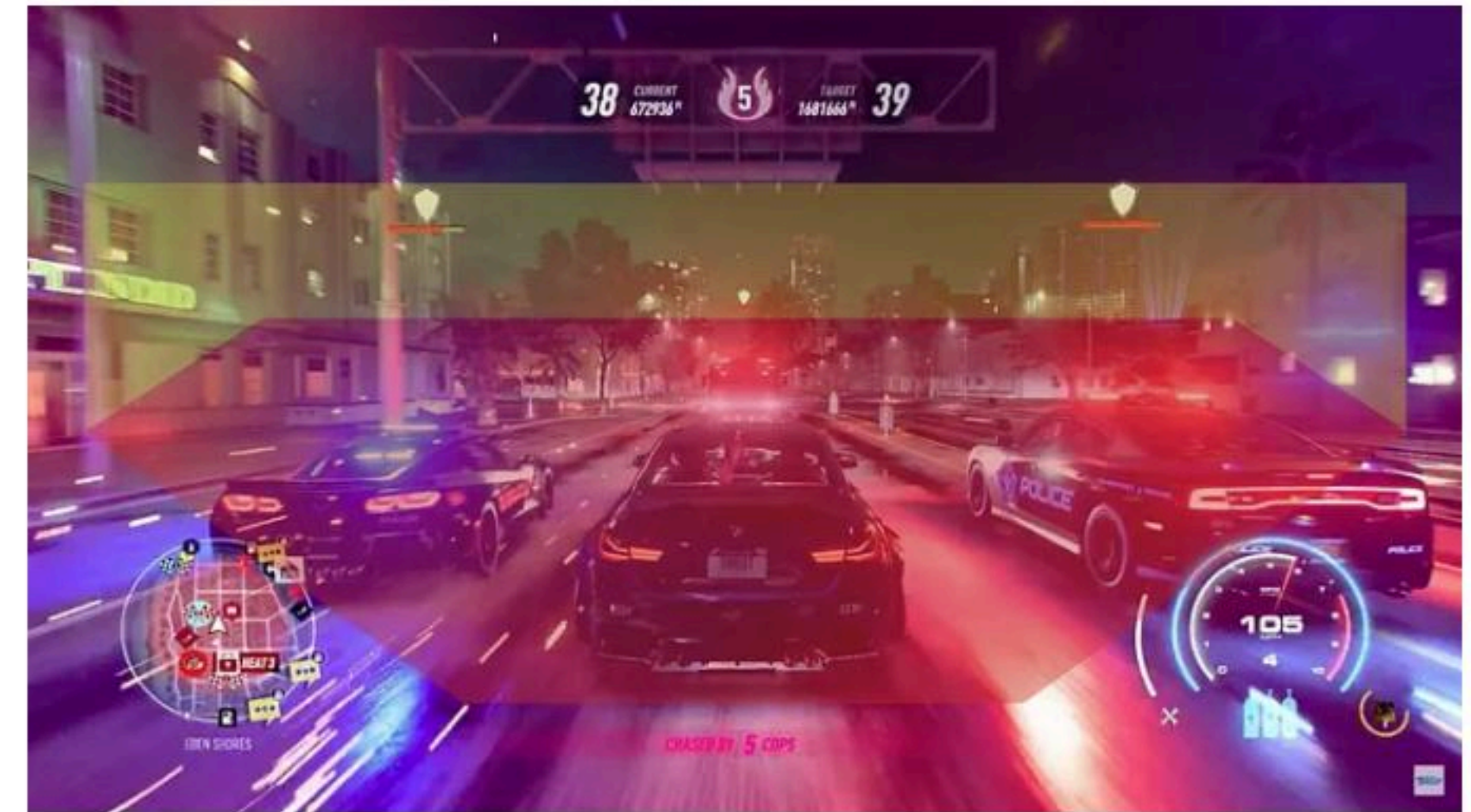# Secondary Research : Articles

2. How do minimal UI elements impact the overall gaming experience?

- How a Game eDesigner: This article explores the effects of minimalistic HUDs on player engagement and immersion.

Medium

- Inspiration from Minimalist Design in Gaming: This piece delves into how minimalist design principles are applied in games to enhance user experience.

Creative Corridor

Game: Need for Speed Heat

Game: Halo 5

Secondary Research : Articles Summary

2. How do minimal UI elements impact the gaming experience?

Better Immersion

Less UI keeps players focused on the game world.

Improved Focus

Fewer distractions help players stay engaged.

Harder Information Delivery

Too little UI can make key stats unclear.

Higher Learning Curve

Players may struggle without clear HUD elements.

More Reliance on Environment

Sound and visuals must replace missing UI.
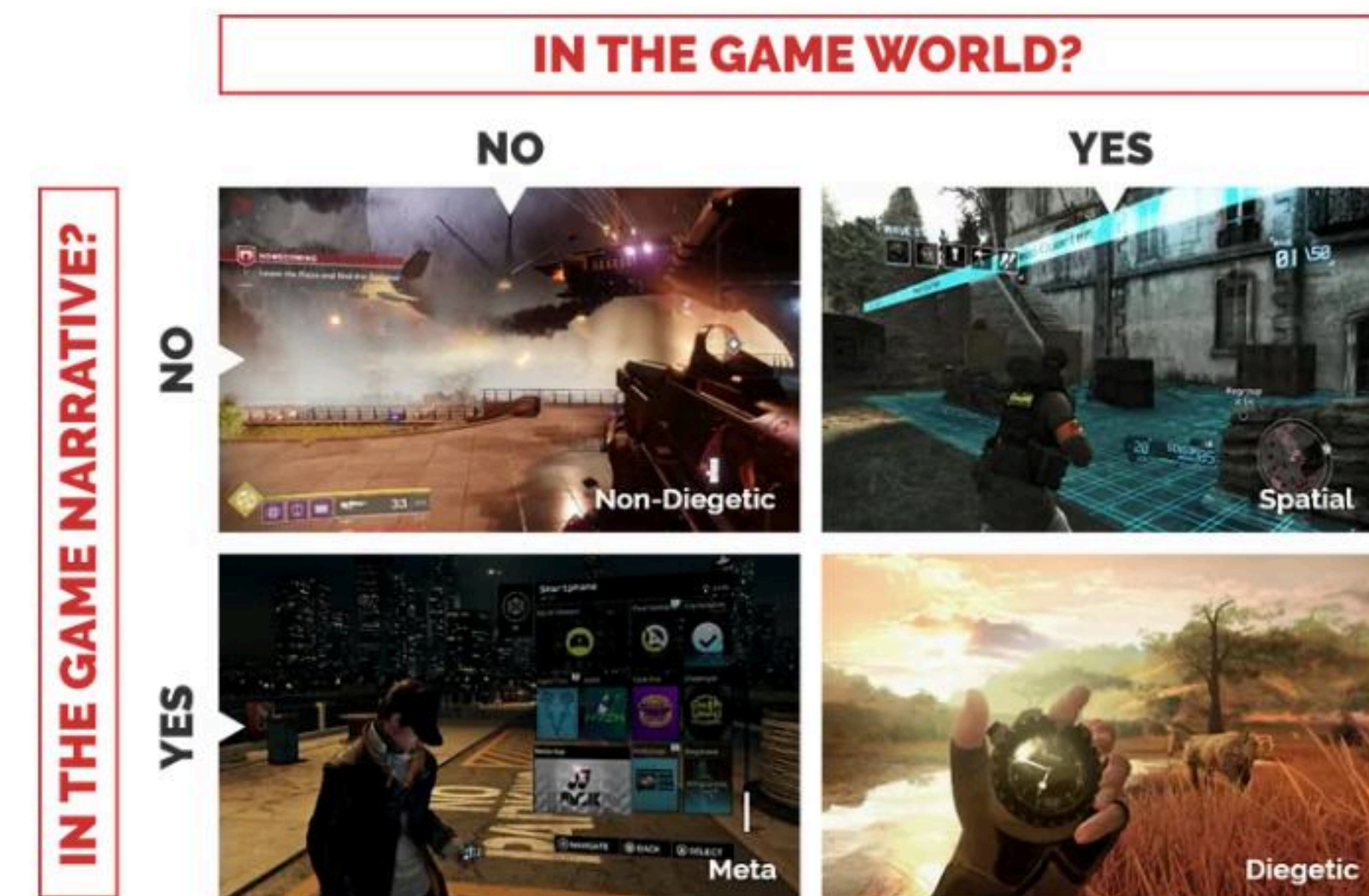
Secondary Research : Articles

3. What are the essential features for user interaction in a 2D battle adventure game?

- Designing Efficient User Interfaces for Games: This article provides insights into key UI elements that facilitate effective user interaction, particularly in action-oriented games.

Medium

- What is UI/UX Design in Games: This resource outlines crucial UI/UX components that contribute to a positive gaming experience, which can be applied to 2D battle adventure games.

Kreonit

Games (Left to right, top to bottom): Destiny 2, Ghost Recon Future Soldier, Watch Dogs 2, Far Cry 2

Game: Mortal Kombat 11

Secondary Research : Articles Summary

3. What are the essential features for user interaction in a 2D battle adventure game?

Responsive Controls

Quick and precise inputs improve gameplay.

Concise HUD

Health, energy, and skills should be easy to see.

Clear Feedback

Hit effects and enemy health bars guide players.

Fast Menus

Quick access to inventory and settings keeps flow smooth.

Customizable UI

Players should adjust HUD size and transparency.

Define.

Problem Statement:

"Competitive gamers need a responsive and distraction-free UI to seamlessly swap to sub-weapons, such as grenades or rouge weapons, during gameplay, while casual players require intuitive guidance and simplified interfaces to improve their overall experience."

Define
Personas 1

Lucas (Competitive Gamer, 25 years old)

Focused **Strategic** **Impatient**

🖥️ **Internet Streamer**

📍 **Toronto, ON**

> "As a gamer, I want a convenient hotkey system so I can access my sub-weapons faster."

Needs
- Customizable key binds and HUD to streamline actions.
- Instant weapon swapping for faster combat response.
- Minimal UI animations that don't delay actions.

Pain Points
- Weapon swapping takes too long, slowing reaction time.
- UI animations cause unnecessary delays in combat.
- Customization options for key binds and HUD layout are limited.

Empathy Maps

"As a gamer, I want a convenient hotkey system so I can access my sub-weapons faster."
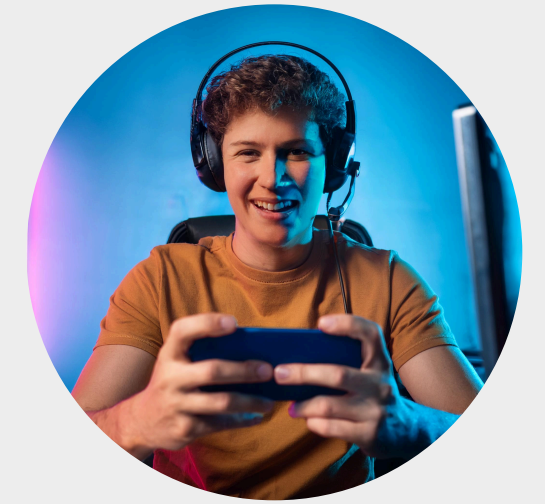
Says

"I need every action to feel instant and responsive."

"Why do I have to press multiple buttons just to get my weapon?"

Thinks

"Why does it take so many clicks just to equip a throwable type items?"
"I should be able to make this action faster, it's costing me time."
"I need the interface to be as fast as I am."

Does

- Focuses on optimizing in-game performance.
- Adjusts settings to get the best response times.
- Practices reflexes in fast-paced solo mode.

Feels

- Frustrated when UI slows reactions.
- Impatient when the game feels sluggish.
- Determined to overcome UI setbacks.

Define Personas 2

Emily (Casual Gamer, 22 years old)

Curious **Patient** **Visual-oriented**

🖥️ **Student**

📍 **Toronto, ON**

> **"As a gamer, I want tutorials embedded in the game so I can learn quickly."**

Needs

- Simple UI with fewer distracting icons.
- Clear and easy-to-follow menu navigation.
- Step-by-step tutorials to guide through new features.

Pain Points

- Too many icons on screen make the UI overwhelming.
- Menu navigation is confusing and not beginner-friendly.
- Lack of visual guidance leads to frustration when learning new mechanics.

Empathy Maps

"As a gamer, I want tutorials embedded in the game so I can learn quickly."

Says

"The UI is too crowded, I can't find what I need."

"I wish there was a simple way to learn the game mechanics."

Thinks

"Why isn't there a simple tutorial that guides me step by step?"
"I don't need all these icons, just the essentials."
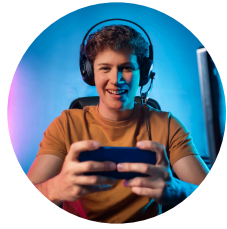"The menus are overwhelming, where do I even start?"

Does

- Explores new features at her own pace.
- Pauses to search for tutorials or guides.
- Prefers games with easy-to-understand mechanics.

Feels

- Overwhelmed by cluttered UI elements.
- Relieved when learning new mechanics without confusion.
- Frustrated when there is no clear direction.

Narratives

- **Describe how Lucas navigates the UI to swap to a grenade mid-game, experiencing frustration and ultimately customizing controls for efficiency.**

- **Detail Emily's learning process through an interactive UI tutorial.**

Assumptions Mapping

- **"Competitive gamers prefer a minimalistic UI with customizable controls."**

- **"Casual players need clear step-by-step guidance."**
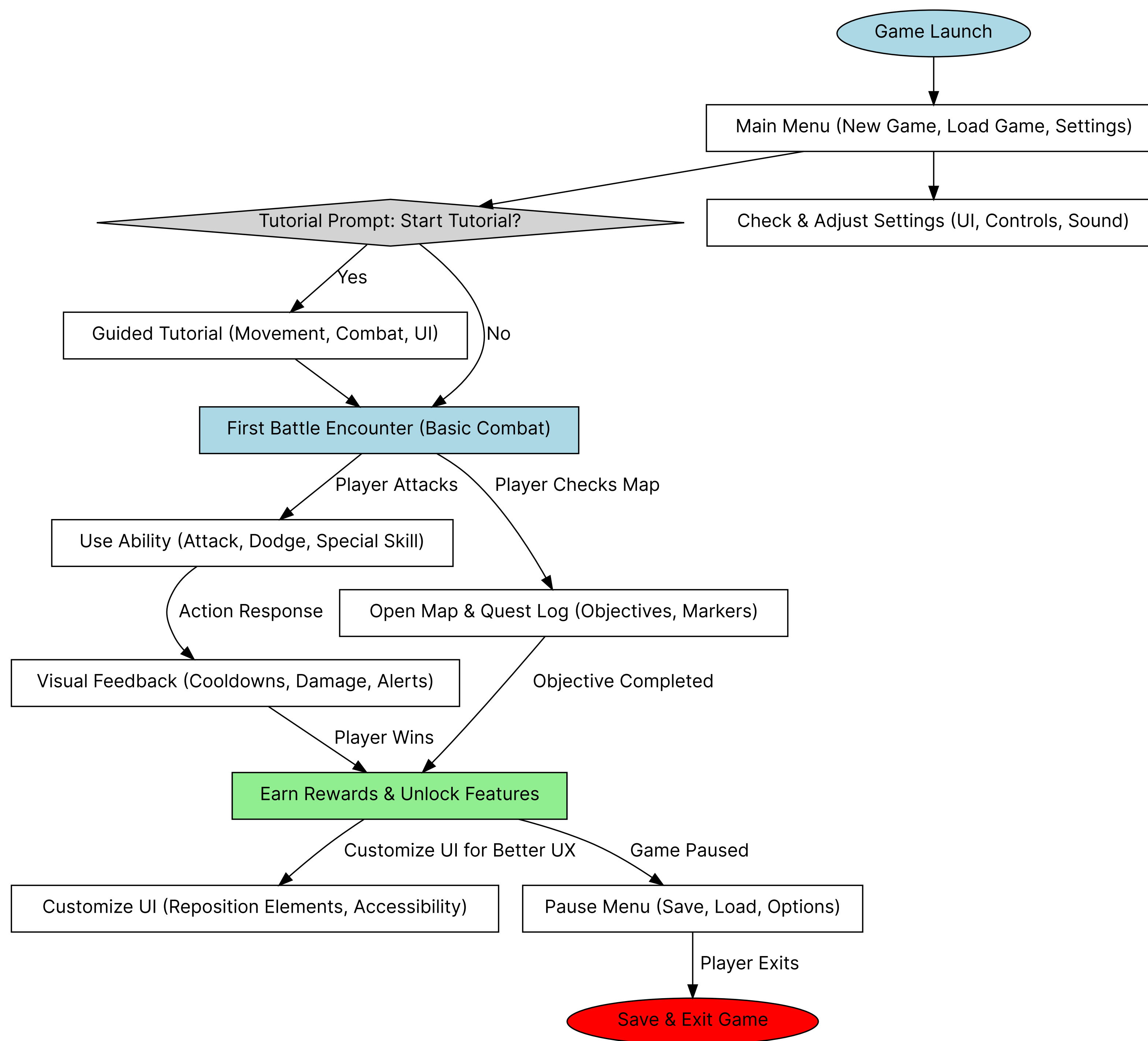
Jobs to be Done

- **"Lucas needs to quickly swap to sub-weapons and minimalistic UI during intense gameplay."**

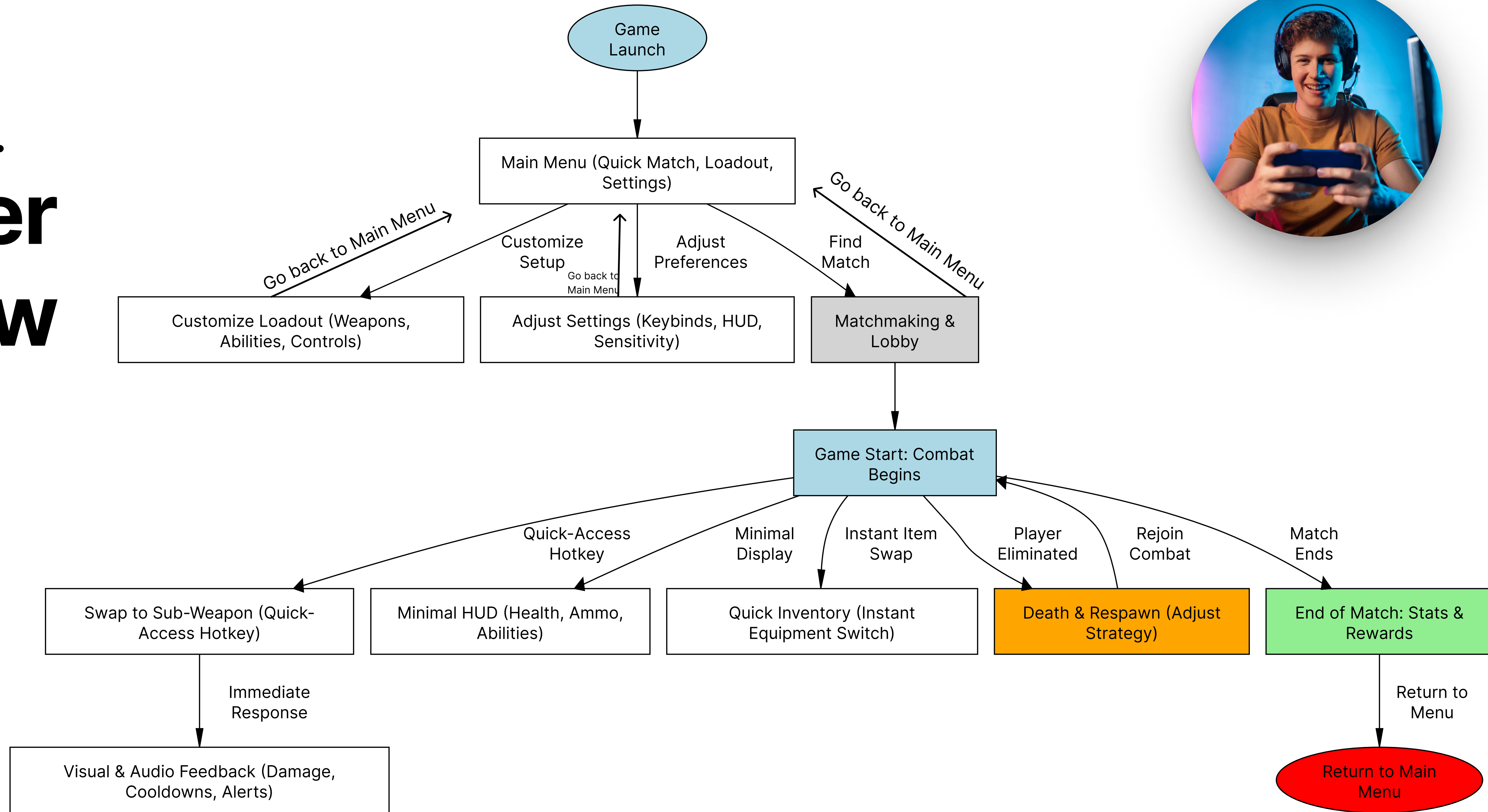- **"Emily needs a clear tutorial to understand UI mechanics."**

Ideate.

User
Flow

Emily

Game Launch

Main Menu (New Game, Load Game, Settings)

Check & Adjust Settings (UI, Controls, Sound)

Tutorial Prompt: Start Tutorial?

Yes — Guided Tutorial (Movement, Combat, UI)

No

First Battle Encounter (Basic Combat)

Player Attacks — Use Ability (Attack, Dodge, Special Skill)

Player Checks Map — Open Map & Quest Log (Objectives, Markers)

Action Response — Visual Feedback (Cooldowns, Damage, Alerts)

Objective Completed

Player Wins

Earn Rewards & Unlock Features

Customize UI for Better UX — Customize UI (Reposition Elements, Accessibility)

Game Paused — Pause Menu (Save, Load, Options)

Player Exits

Save & Exit Game

Ideate.
User
Flow
Lucas

Game Launch

Main Menu (Quick Match, Loadout, Settings)

Go back to Main Menu

Customize Setup

Adjust Preferences

Find Match

Go back to Main Menu

Customize Loadout (Weapons, Abilities, Controls)

Go back to Main Menu

Adjust Settings (Keybinds, HUD, Sensitivity)

Matchmaking & Lobby

Game Start: Combat Begins

Quick-Access Hotkey

Minimal Display

Instant Item Swap

Player Eliminated

Rejoin Combat

Match Ends

Swap to Sub-Weapon (Quick-Access Hotkey)

Minimal HUD (Health, Ammo, Abilities)

Quick Inventory (Instant Equipment Switch)

Death & Respawn (Adjust Strategy)

End of Match: Stats & Rewards

Immediate Response

Return to Menu

Visual & Audio Feedback (Damage, Cooldowns, Alerts)

Return to Main Menu

Ideate.

User Journey - Emily

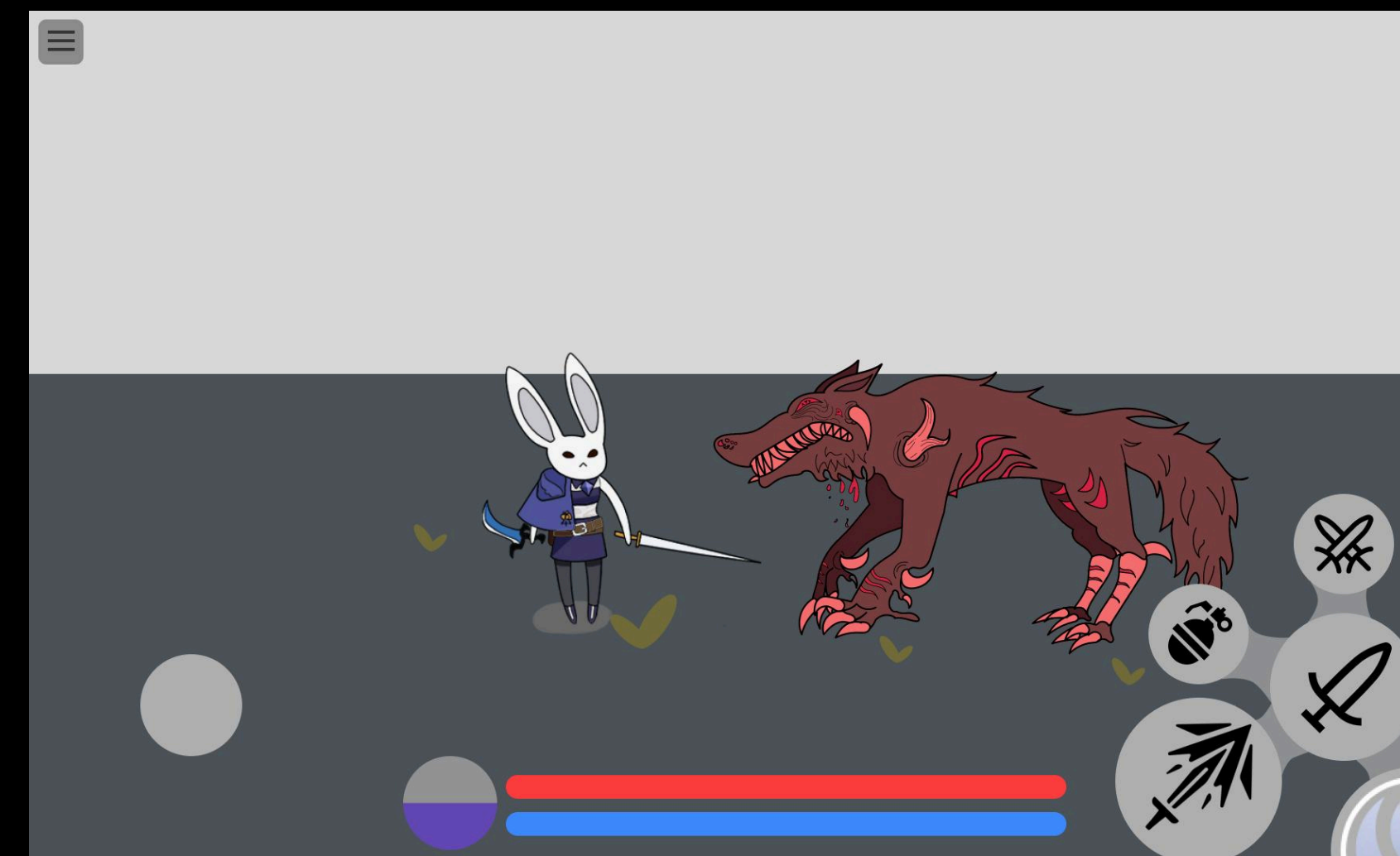|	Discovery	Refinement	Decision	Completion
Actions	Sees a trailer, reads reviews, downloads the game	Launches the game, explores the menu, starts tutorial	Plays tutorial, enters first battle, explores inventory	Completes first quest, levels up, saves progress
Steps	Downloads the game, opens the main menu	Chooses tutorial or skips, learns basic mechanics	Uses abilities, explores inventory, follows early quests	Levels up, unlocks new abilities, sees rewards
Feelings				
Opportunities	Show simple UI in marketing visuals	Highlight "Start Tutorial", offer guided tips	Use step-by-step hints, reduce UI clutter	Show recap screen when reopening the game

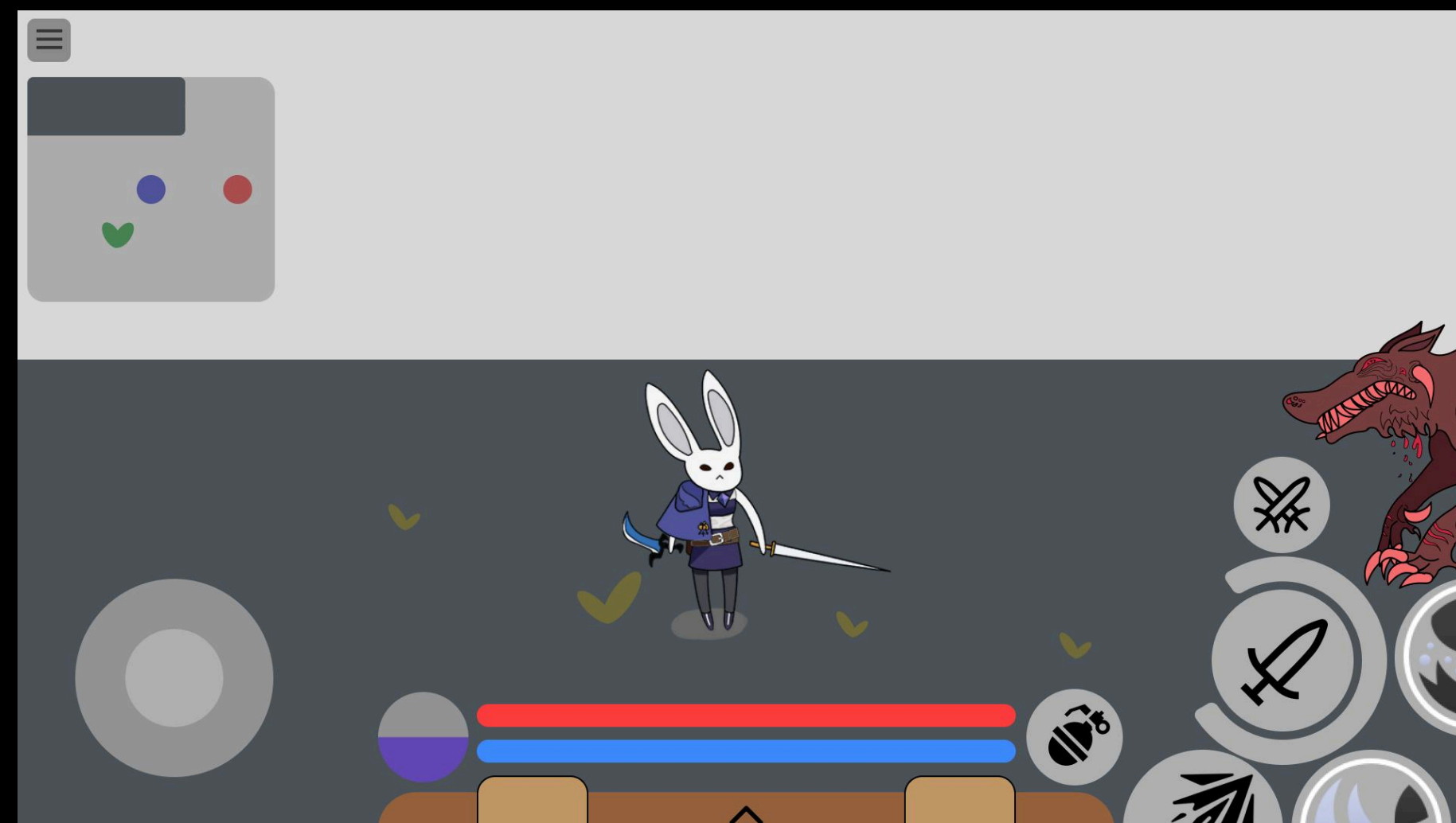# Ideate.
IA - In Game APP

```
                                    ┌──────────┐
                                    │   Main   │
                                    │   Menu   │
                                    └──────────┘
            ┌───────────────┬──────────────┴──────────────────────────────────┐
      ┌──────────┐    ┌──────────┐  ┌──────────┐                         ┌──────────┐
      │  Start   │    │Load Game │  │ Settings │                         │  Extras  │
      │   Game   │    └──────────┘  └──────────┘                         └──────────┘
      └──────────┘
```

| HUD (Health, Stamina, Ammo, Mini-Map, Cooldowns) | Graphics (Resolution, VSync, FPS Cap) | Sound (Volume, Effects, Voice Chat) | Controls (Keybinds, Sensitivity, Controller Support) | Accessibility (Subtitles, Colorblind Mode) | Tutorials (Beginner Guide, Advanced Mechanics) | Achievements (Unlocked Trophies, Progression) | Game Credits |

| Inventory (Weapons, Items, Equipment, Crafting) | Skills & Abilities (Level Progression, Unlocks) | Quests & Objectives (Active, Completed, Rewards) | World Map (Fast Travel, POIs, Fog of War) | Pause Menu |

| Resume Game | Inventory (Quick Access) | Settings (Adjust Mid-Game) | Exit to Main Menu |

Prototype / Test

Prototype

LITTLE RABBIT KIN

Start Game

Settings

Exit

SELECT WORLD

1.   56129   Forrest Of Abyss
2.   7215   Abandoned Dessert
3. New Game
4. New Game

CUSTOMIZATION

WEAPON QUICK SWAP   ▼   ENABLED

INSTANT SKILL CAST   ▼   ENABLED

BATTLE FOCUS MODE: ▼   ON

56129

100   Hp Potion
70   Xlp Potion
150   Cleansing Potion
220   300   250

Prototype / Test

Prototype Design & Font

Major Colors

Golden Yellow
#EBAC2B

Dark Navy
#171B22

Black 80
#4C5359

Red
#FD3D3D

Blue
#3D8AFD

Purple
#6247B5

Brown
#95623D

Light Brown
#C29766

Black 40
#949494

Black 30
#B0B0B0
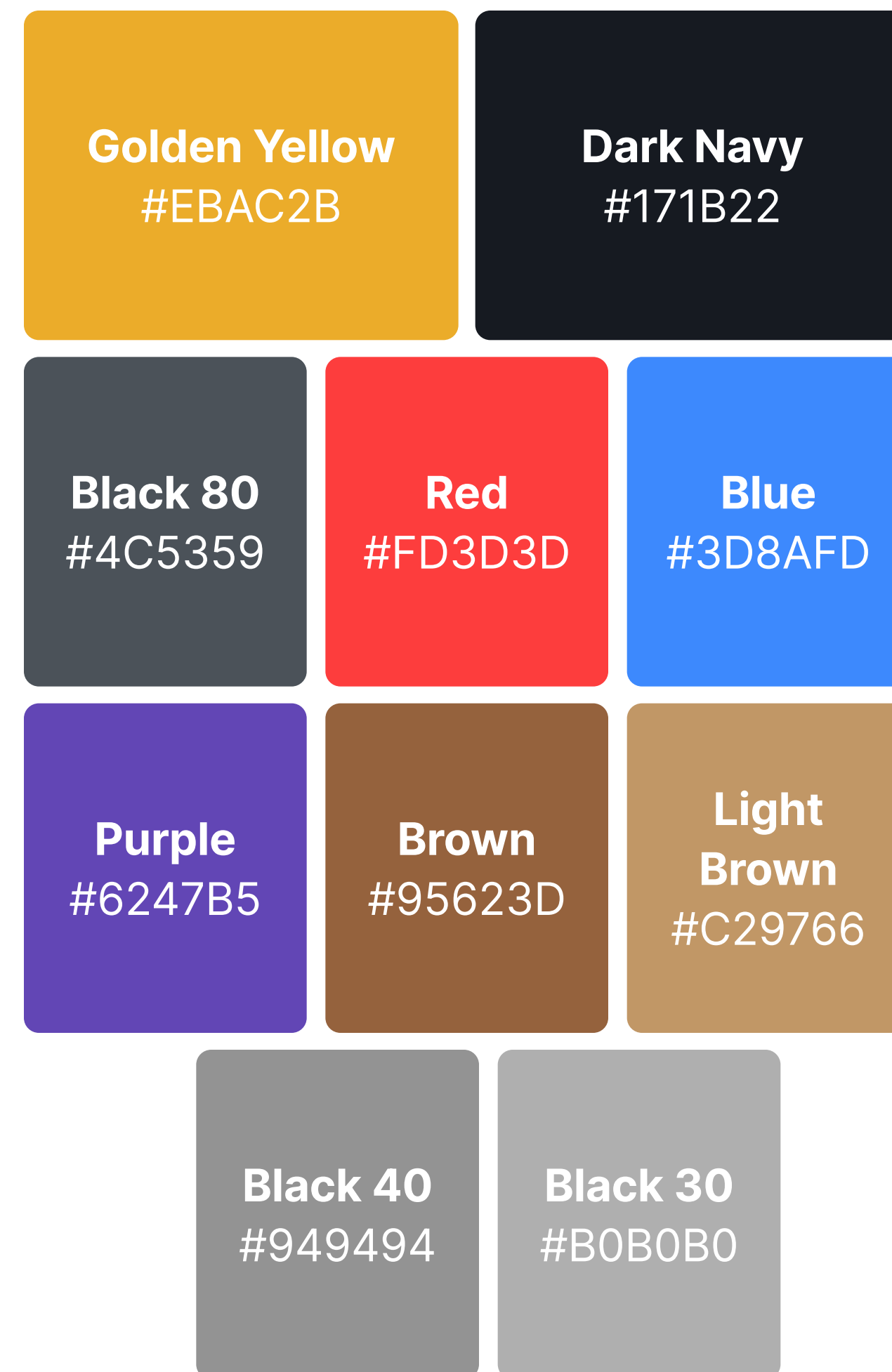
Typo

Ethereal Havena
DEMO
Regular

Book Antiqua

Regular **Bold** *Regular Italic* ***Bold Italic***

Prototype / Test

UI Components

I designed UI components with engaging concepts, ensuring that each icon visually represents its function within the app.

SELECT WORLD

1. 56129   Forrest Of Abyss

2. 7215   Abandoned Dessert

3. New Game

4. New Game

1. 56129   Forrest Of Abyss

Prototype:

Prototype: Game Options in settings

Prototype: Game Options in settings 2
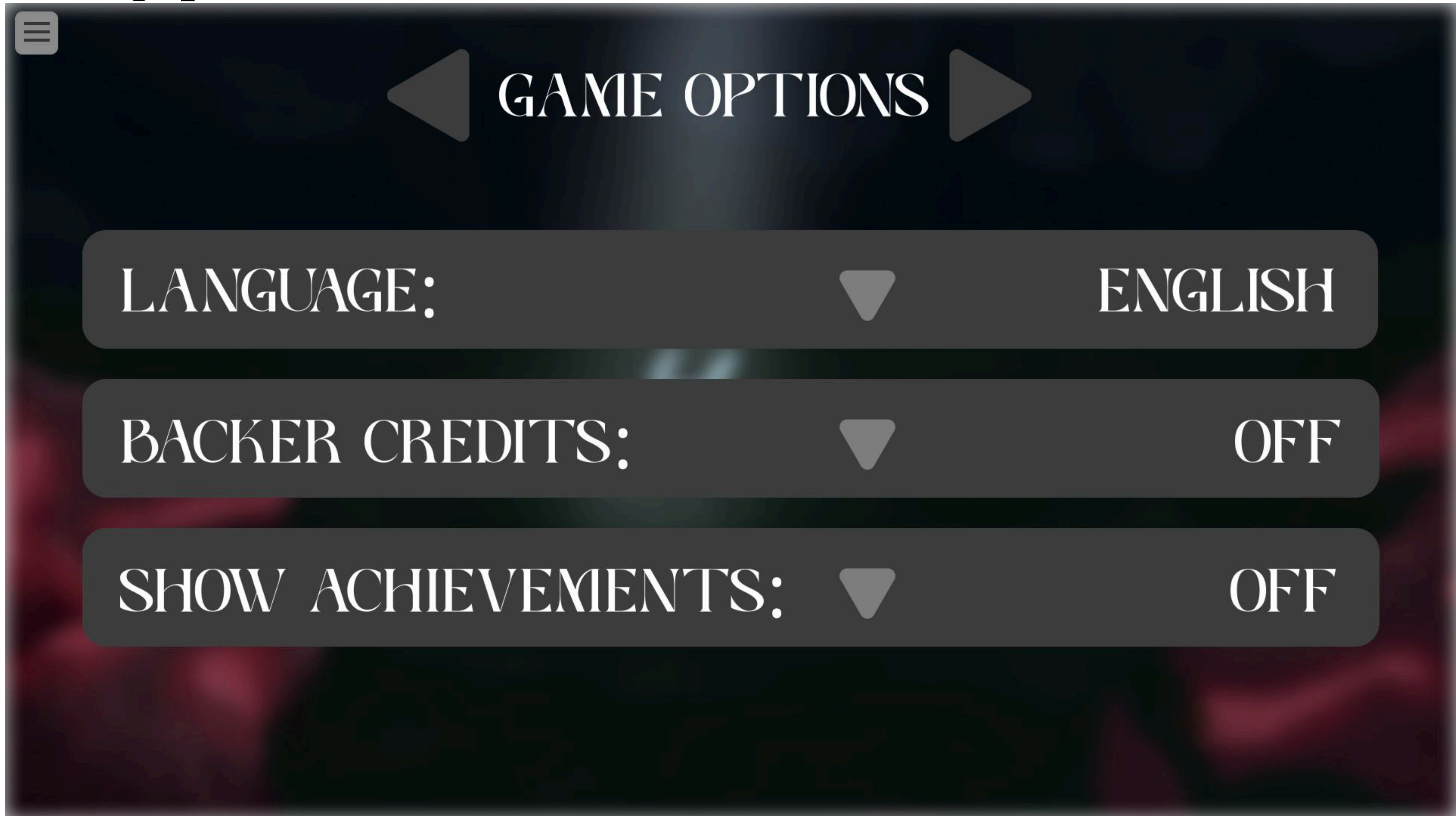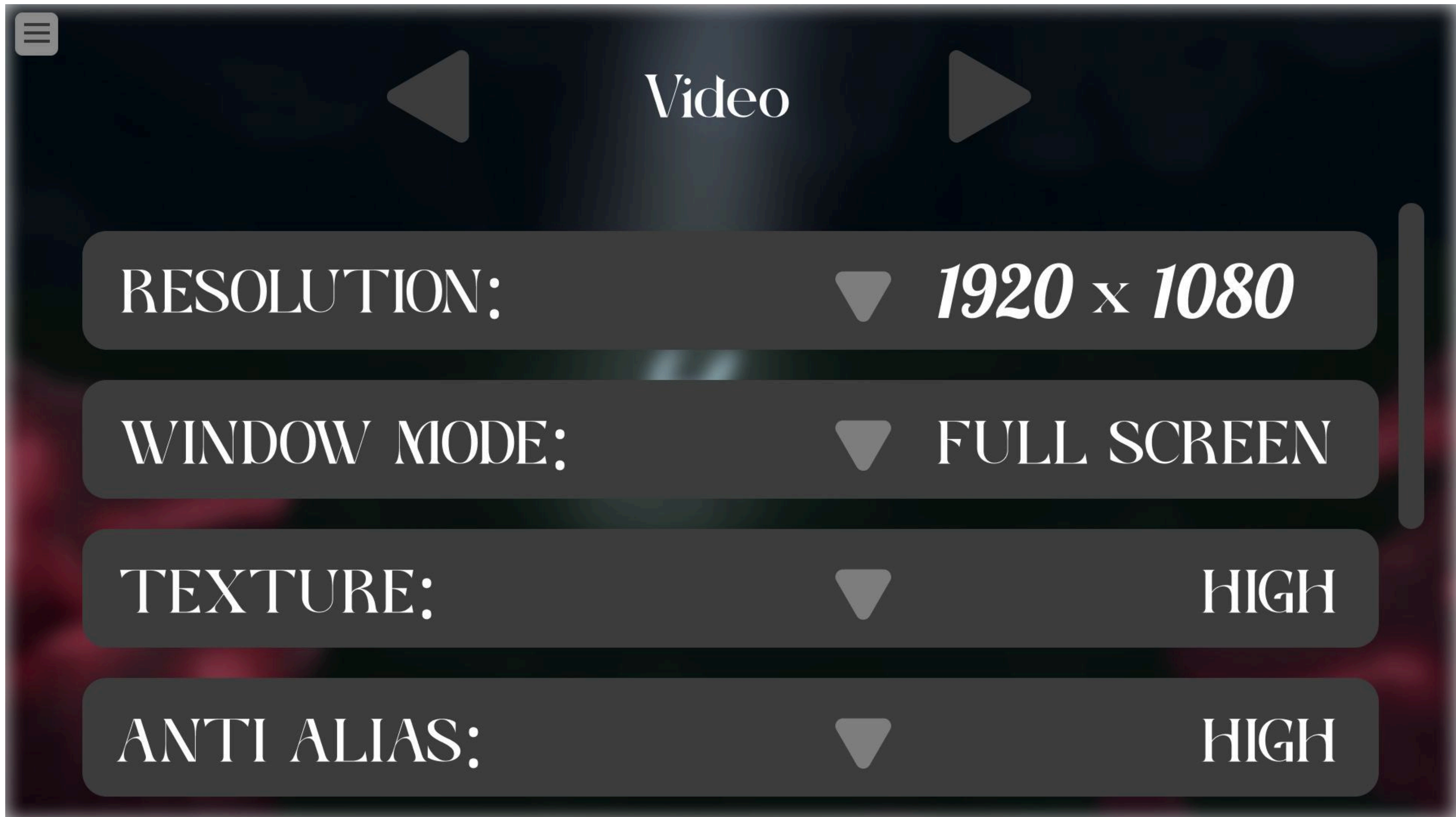
Video

RESOLUTION: ▼ 1920 x 1080

WINDOW MODE: ▼ FULL SCREEN

TEXTURE: ▼ HIGH

ANTI ALIAS: ▼ HIGH

Prototype: Game Options in settings 3

◀ CUSTOMIZATION ▶

WEAPON QUICK SWAP ▼ ENABLED

INSTANT SKILL CAST ▼ ENABLED

BATTLE FOCUS MODE: ▼ ON

ADD MORE CUSTOMIZATION

Prototype: Game Options in settings 4

AUDIOS

MASTER VOLUME: ◀ 10.0 ▶

MUSIC VOLUME: ◀ 10.0 ▶

FX VOLUME: ◀ 10.0 ▶

FX VOLUME: ◀ 10.0 ▶
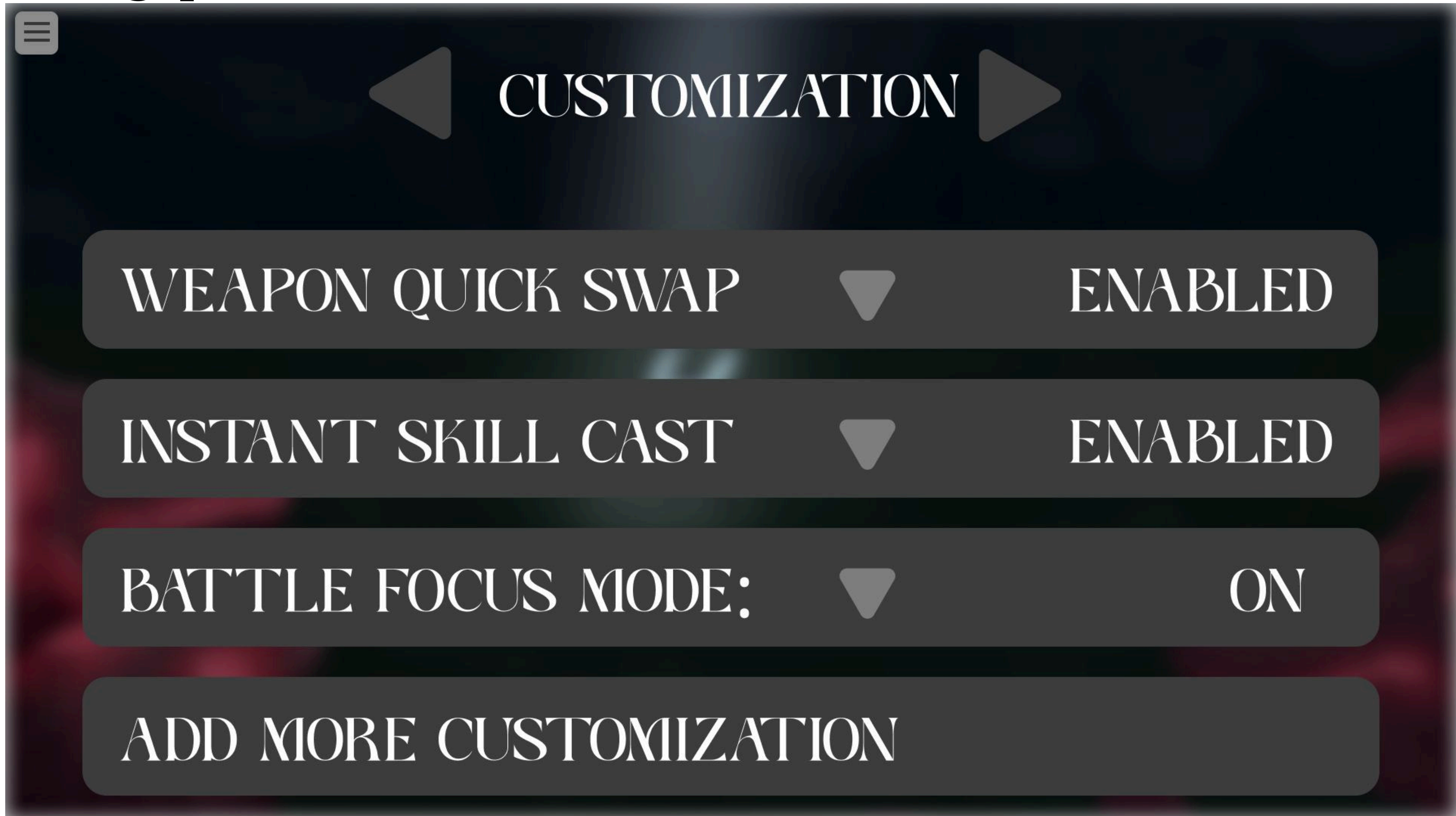
Prototype: Main Screen to Start Game

Prototype: World Selection to In Game

SELECT WORLD

1. 56129 — Forrest Of Abyss

2. 7215 — Abandoned Dessert

3. New Game

4. New Game

Prototype: In Game Battle Focused UI Mode

Prototype: In Game No Battle
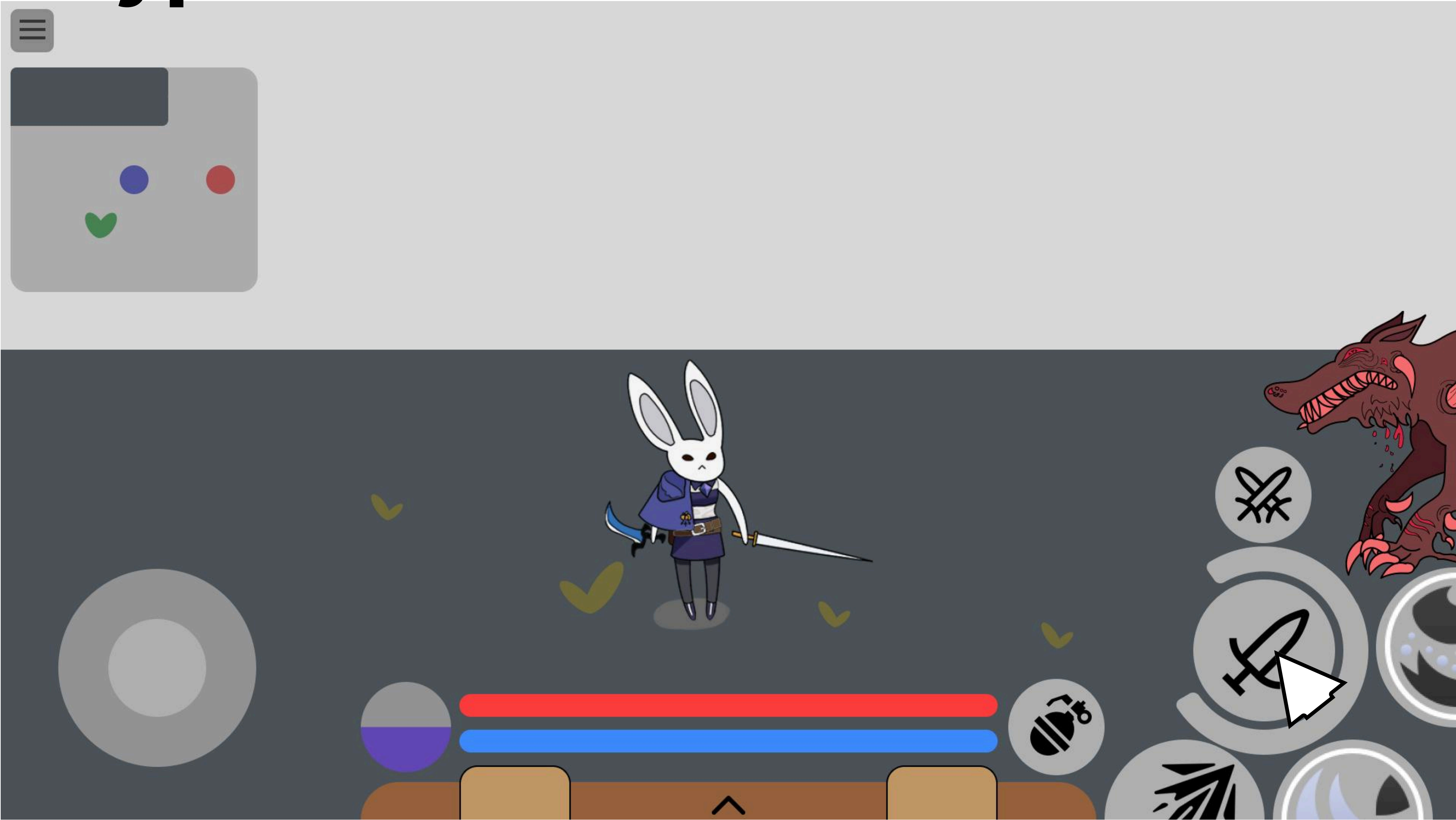
Prototype: In Game Store Access
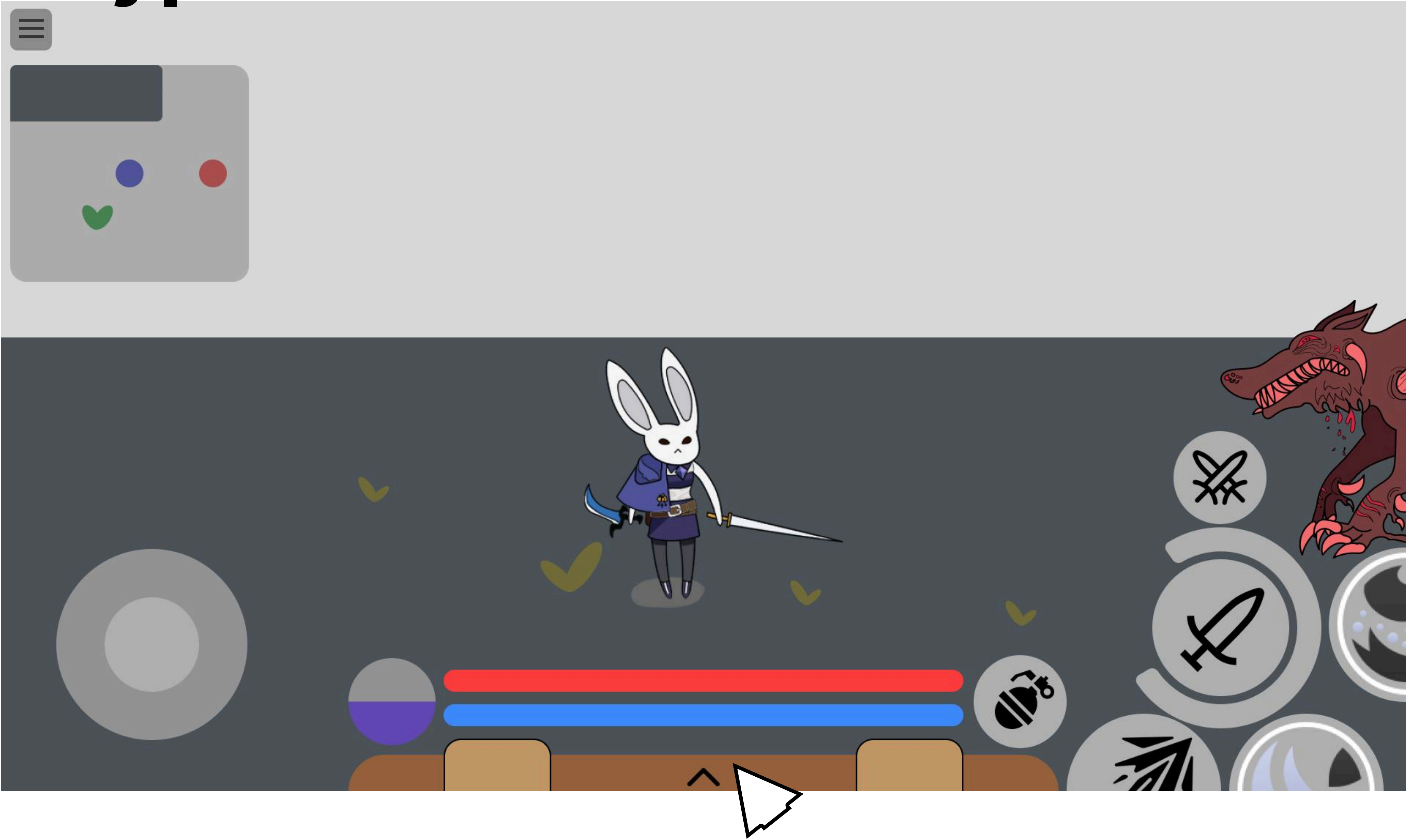
Prototype: Merchant Page

56129

100 Hp Potion	**70** Xlp Potion	**150** Cleansing Potion
220 Rage Potion	**300** Ultimate Potion	**250** Swiftness Potion

Potions   Armors   Weapons

Prototype / Test

Design Soultion

I enhanced my prototype by adding in-game features that assist players, allowing for a more immersive and engaging gameplay experience.

Focus Battle Mode

Players can be using to other skill without tapping off their finger on the screen.
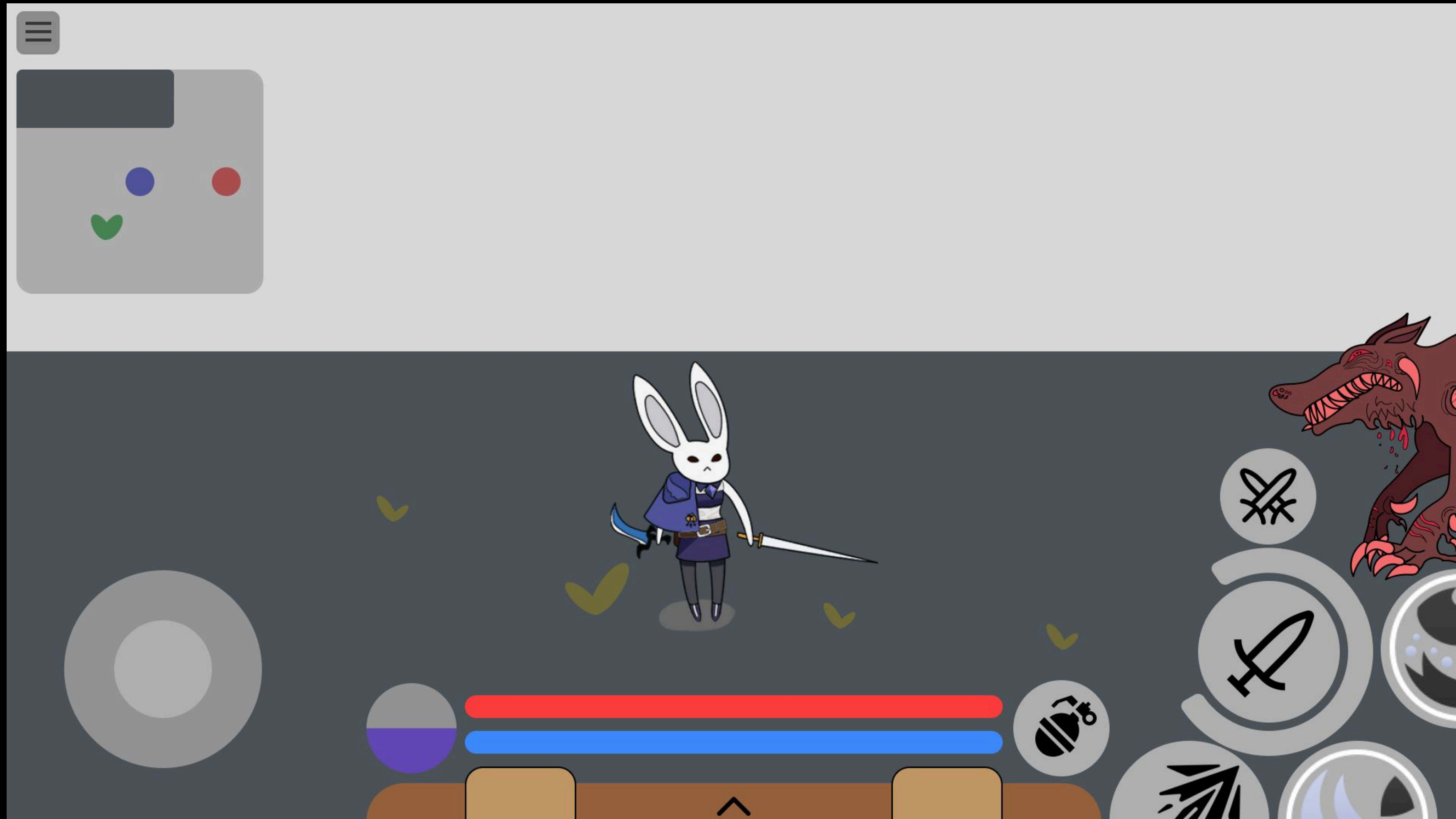
Instant Skill Cast Feature

Players can enable Focus Battle Mode in the settings for extra focus.

In Game Battle Focused UI Mode

Focusing Mode For Battle

Players can enable Focus Battle Mode in the settings for extra focus.

Disabled:

In Game Battle Focused UI Mode

Focus Battle Mode

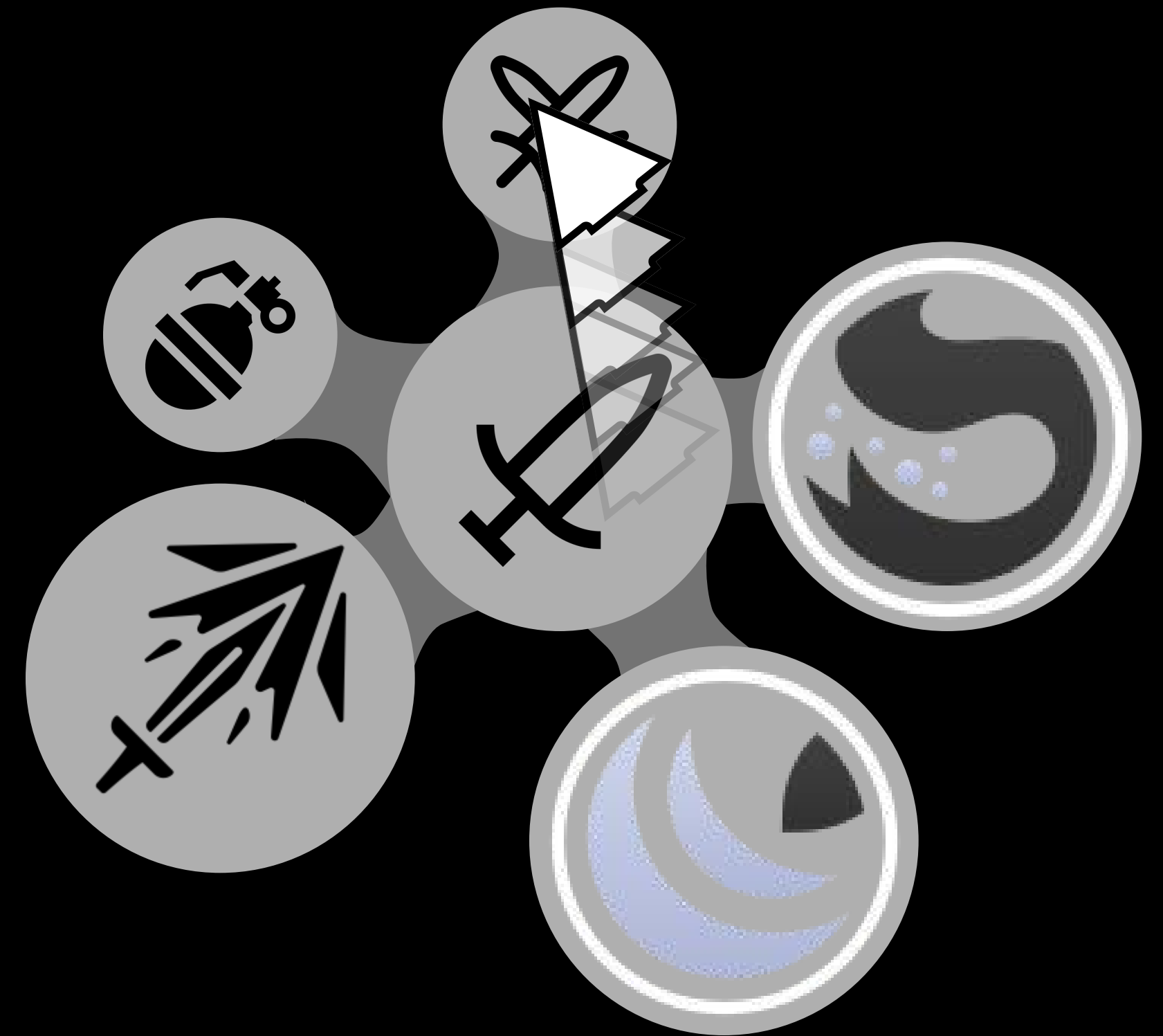Players can enable Focus Battle Mode in the settings for extra focus.
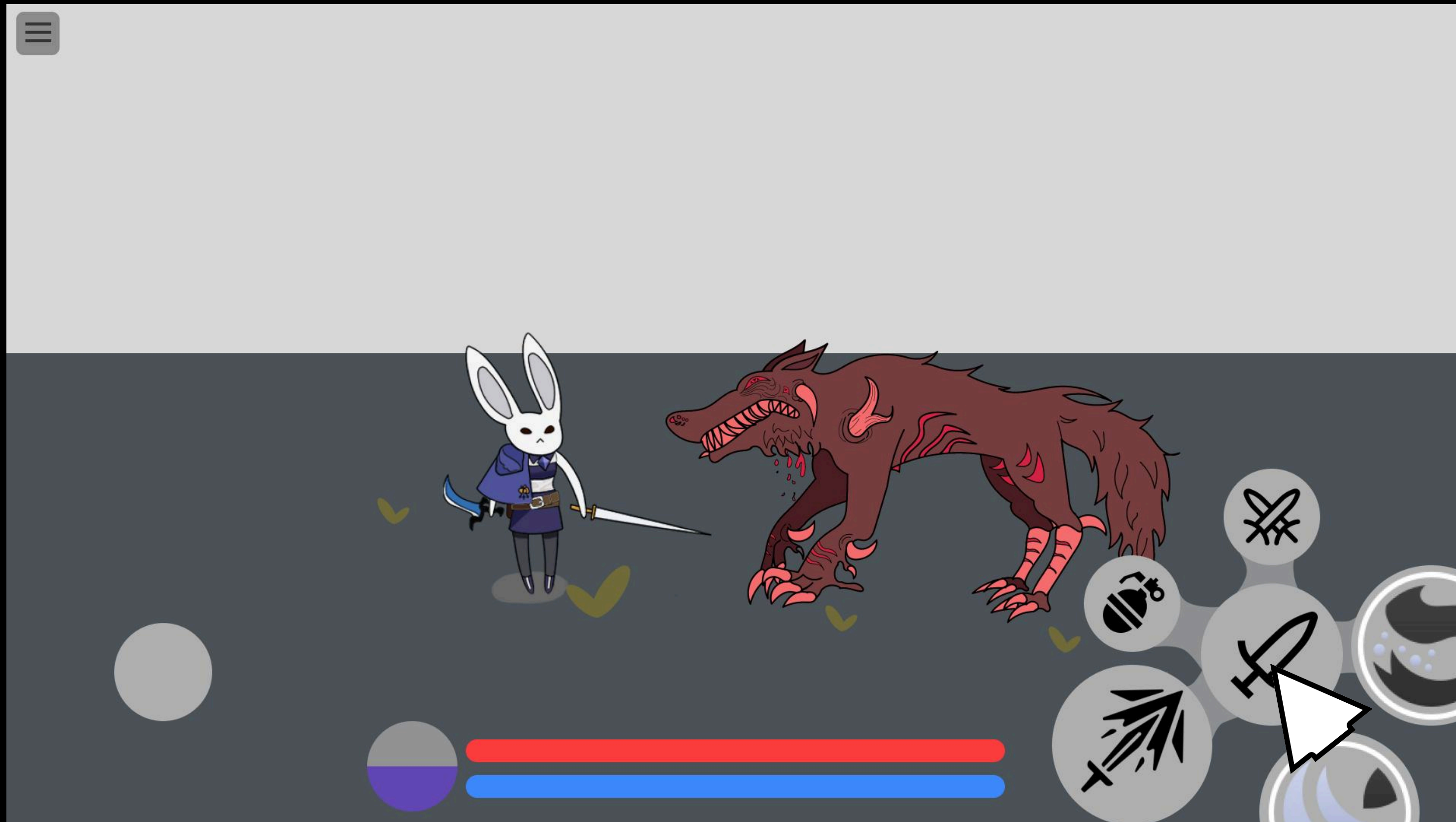
Enabled:

In Game Battle Focused UI Mode

Instant Skill Cast Feature

Players can be using to other skill without tapping off their finger on the screen.

Test.

Usability Testing

My usability test are Convenient Icon Feature and Eye Tracking. It allows us to precisely determine where users' eyes are focused, enabling us to refine the UI layout accordingly.

Convenient Icon Feature

I added a Trash Can Icon so player can delete and manage their map.

Eye Tracking

It pinpoints users' focus, helping refine the UI layout.

Test.

Convenient Icon Feature

I added a Trash Can Icon so player can delete and manage their map.

Convenient Icon Feature

SELECT ✦ WORLD

1. 🐰 🔴🔴🔴🔴
   ⓥ 56129   Forrest Of Abyss

2. 🐰 🔴🔴
   ⓥ 7215   Abandoned Dessert
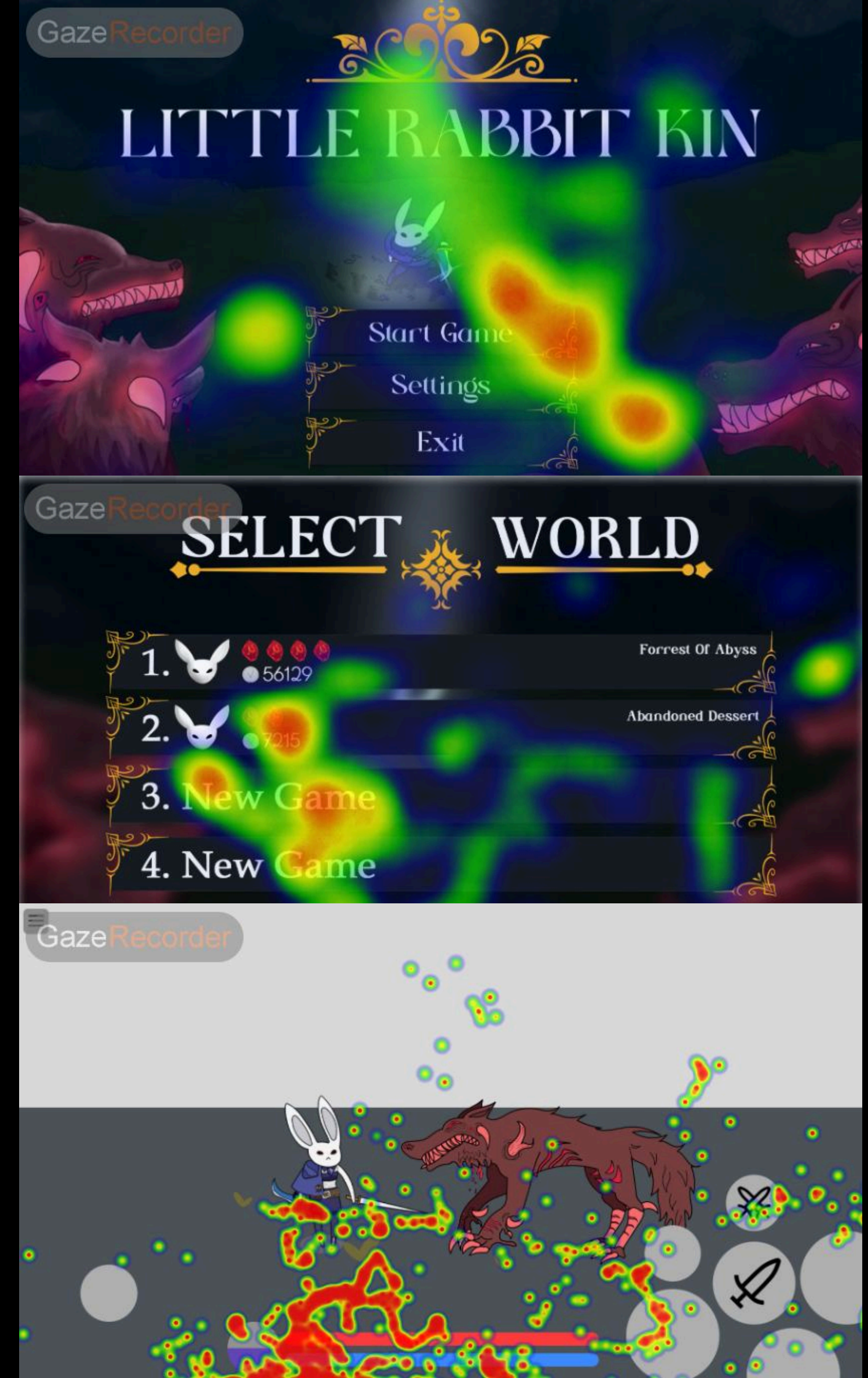
3. New Game

4. New Game

Test.

Eye Tracking

My usability test is Eye Tracking. It allows us to precisely determine where users' eyes are focused, enabling us to refine the UI layout accordingly.

01. Main Screen

02. World Selection

03. In Game Battle

Reflection.

Challenges

While developing a mobile-friendly game, I learned about different gameplay approaches, UI minimization, and optimal placement.

Limited Feature in Figma

Figma's limitations made it difficult to add character motion, preventing a thorough test of the Instant Skill Cast feature.

Lack of knowledge of Mobile Video Game

Limited knowledge of mobile game UI layout and mechanics made development challenging.
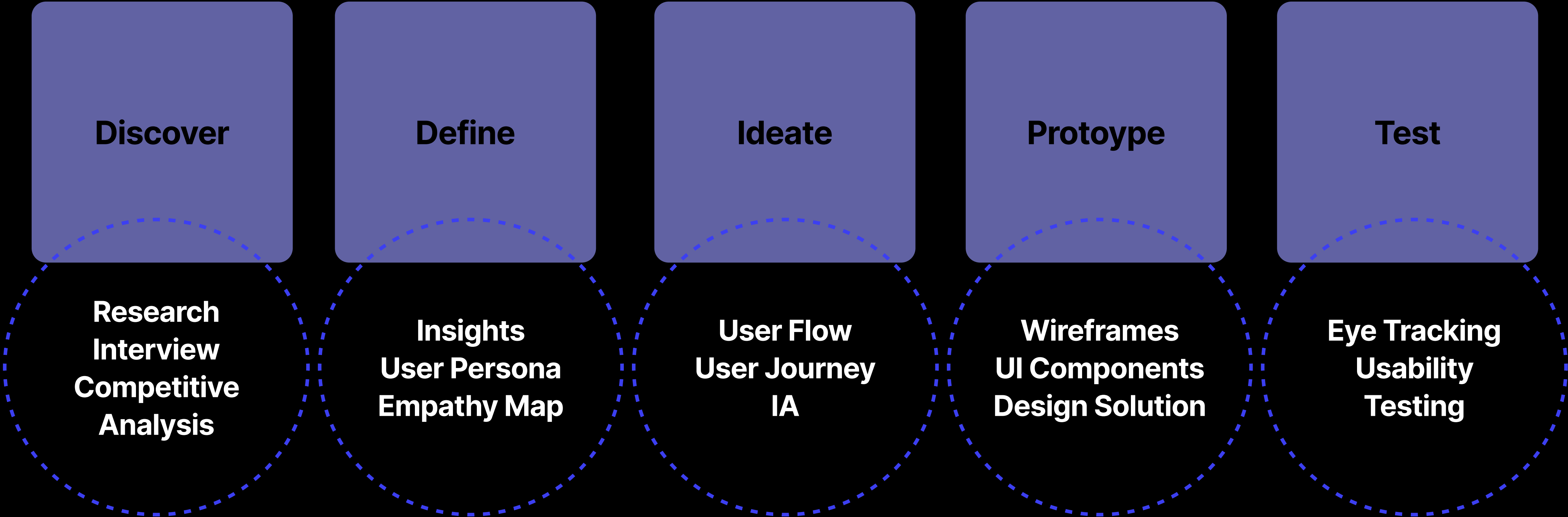
Appendix.

In this stage, I have added the design process and the sources of reference.

Appendix.

Design Process

I enhanced my prototype by adding in-game features that assist players, allowing for a more immersive and engaging gameplay experience.

Discover	**Define**	**Ideate**	**Protoype**	**Test**
Research Interview Competitive Analysis	Insights User Persona Empathy Map	User Flow User Journey IA	Wireframes UI Components Design Solution	Eye Tracking Usability Testing

Appendix.

References

- **Common Mistakes in Video Game User Interfaces**

https://www.sapphirenation.net/common-mistakes-in-video-game-user-interfaces?utm_source=chatgpt.com

- **Why UI Design is a Challenge for Video Games**

https://medium.com/%40GWBycer/why-ui-design-is-a-challenge-for-video-games-67b2fc7ecd51

- **How a game that has almost no HUD elements engaged a UX/UI designer for hours**

https://medium.com/%40kinga.olszewska/how-a-game-that-has-almost-no-hud-elements-engaged-a-ux-ui-designer-for-hours-45d71184205f

- **Inspiration from Minimalist Design in Gaming**

https://creativecorridor.co/inspiration-from-minimalist-design-in-gaming/?utm_source=chatgpt.com

- **Designing Efficient User Interfaces For Games**

https://medium.com/%40nicolaskraj/designing-efficient-user-interfaces-for-games-be20b516f1c2

- **What is UI UX design in games: 10 differences or how to avoid a terrible mistake**

https://kreonit.com/idea-generation-and-game-design/ui-ux-design-in-games/?utm_source=chatgpt.com

Thank you.